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October 9, 1995

Mr. Jason Feingold  
Vermont ANR/DEC  
Hazardous Materials Management Division  
103 South Main St/West Building  
Waterbury, VT 05671-0404

RE: Site Assessment Report for Conrad Duval, Inc., Rochester, Vermont (VTDEC  
Site #95-1773)

Dear Mr. Feingold:

Please find enclosed a copy of the Site Assessment Report for the above referenced site.  
This report has been forwarded to the Vermont Department of Environmental  
Conservation (VTDEC) on behalf of Conrad Duval, Inc.

Please feel free to contact me if you have any questions.

Sincerely,

Erik C. Sandblom  
Engineer

Enclosure

cc: Conrad Duval (w/o enclosure)

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## **I. INTRODUCTION**

The following report summarizes the investigation of subsurface petroleum contamination that took place at Conrad Duval, Inc., located on Peavine Drive in Rochester, Vermont. This work has been conducted by Griffin International, Inc. for Conrad Duval, Inc. The Vermont Department of Environmental Conservation (VTDEC) requested that this work be completed in a letter addressed to Mr. Conrad Duval from Richard Spiese of the VTDEC, dated May 15, 1995. All work at the site was conducted in accordance with the June 22, 1995 Work Plan and Cost Estimate prepared by Griffin, which was approved by the VTDEC in a letter from Mr. Jason Feingold, VTDEC, to Mr. Duval, dated July 6, 1995.

Work conducted at the site includes the installation of four groundwater monitoring wells, and subsequent sample collection and analysis, the excavation of four test pits, and the development of a groundwater contour map for the site. In addition, a sensitive receptor risk assessment was conducted to assess the risk that subsurface petroleum contamination at the site may pose to sensitive receptors.

## **II. SITE BACKGROUND**

### **A. Site History**

On March 6, 1995, an abandoned, 1,000 gallon capacity underground storage tank (UST) was permanently closed and removed from the ground at the site. The UST had not been in service for four years before its removal. During the UST removal inspection, evidence of petroleum contamination was detected in the subsurface down to the water table. This UST was located adjacent to the main building for Conrad Duval, Inc. (see Site Map in Appendix A).

During the UST removal inspection, an assessment was also conducted at the site for the removal of an 8,000 gallon capacity gasoline UST and a 10,000 gallon diesel UST, which were removed in 1993. A UST removal inspection was not conducted during the removal of these two USTs, although the property owner indicated that he did not detect any evidence of petroleum contamination to the subsurface when they were removed. These USTs were located adjacent to the old railroad roundhouse at the site. Test pits were excavated downgradient of the former USTs since obstacles prevented excavation in the former tank pits. No petroleum contamination was detected in either test pit. However, due to frost buildup, the test pits were not excavated to the groundwater.

As a result of the detected petroleum contamination in the subsurface in the vicinity of the 1,000 gallon UST, the VTDEC requested that more work be conducted at the site to determine the extent and degree of petroleum contamination. The VTDEC also requested that additional exploratory diggings be conducted in the location of the former 8,000 gallon and 10,000 gallon USTs, to the groundwater. Conrad Duval, Inc. retained the services of Griffin International, Inc. to prepare a work plan and cost estimate for all work requested by the VTDEC. A work plan and cost estimate for an investigation of subsurface petroleum

contamination was prepared for the site and approved by both Conrad Duval, Inc. and the VTDEC. This report summarizes this investigation.

## **B. Site Description**

Conrad Duval, Inc. is an excavation company located in the Town of Rochester, Vermont. The site consists of a main garage and office for the business, the Duval Residence, and an old railroad roundhouse, now used by Conrad Duval, Inc. According to Mr. Duval, the roundhouse was owned by a railroad company up to 100 years ago, and has since been owned by two separate oil companies, before purchase by Conrad Duval, Inc. The roundhouse is divided from the rest of the site by Peavine Drive. The site is bordered to the west by the White River, a community park to the southwest, a steep up-sloping hill to the south and southeast, and a daycare to the northeast. A bulk-storage transfer facility owned by CV Oil, Inc. is located to the north, adjacent to the site, which consists of four 10,000 gallon capacity above ground storage tanks (ASTs) used to store diesel fuel and No. 2 fuel oil. The land use in this vicinity varies from recreational to residential to commercial to industrial.

The site is located in the flood plain of the White River. Soils at the site consist primarily of glaciofluvial sands and gravels. The water table in the overburden at the site is approximately 9 feet in depth and slopes toward the river at a relatively shallow gradient. Some minor seasonal flooding has been reported along the eastern bank of the White River.

## **III. INVESTIGATIVE PROCEDURES**

### **A. Monitoring Well Installation**

On August 2, 1995, four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4) and one additional soil boring (SB-1) were installed to determine the extent and degree of subsurface contamination at the site and hydraulically down gradient of the site. The locations of the wells and the soil boring are displayed on the Site Map in Appendix A. The company conducting the drilling services was Green Mountain Boring of Barre, Vermont, who was under the direct supervision of a Griffin engineer. The wells were constructed in soil borings advanced with a 4.25 inch inner diameter hollow stem auger drill rig. Undisturbed soil samples were collected with the use of a split spoon sampler at five foot intervals. Soil types from each boring were classified and logged in detail. Each soil sample was screened for volatile organic compounds (VOCs) with an H-Nu PI-101 photoionization detector (PID). All wells were developed by hand using a bailer immediately following installation.

The wells were constructed of factory slotted, two-inch diameter PVC pipe with a slot size of 0.010 inch and a schedule 40 PVC riser. The length of the screen varied depending on the depth of the well and the location of the water table in the bore hole. Specific well construction details are displayed in the detailed well logs included in Appendix B. All wells were installed in accordance with Griffin protocols which comply with State and industry standards.

Soils encountered in MW-1, MW-2, MW-3, and SB-1 were medium to fine sand and little silt with some medium gravel from the ground surface to the water table, which was encountered at 8 to 10 feet below grade. The percentage of silt in the soil increased slightly in depth. Below the water table, the soil in the overburden aquifer consisted of coarse sand and gravel over fine sand and silt with occasional traces of clay. The placement of MW-4 was limited by overhead power lines and coarse material in the overburden. Medium to fine sand was encountered in MW-4 down to 4 feet, at which point coarser gravel and cobbles were discovered, making auger drilling difficult. Two attempts at drilling MW-4 were conducted before the water table was successfully reached. Below the water table, soil consisted of sand and gravel to approximately 12 feet below grade, where very fine sand and silt was encountered.

MW-4 was installed due to the detection of VOC concentrations in soil above VTDEC action limits in test pits excavated in the vicinity of the former 8,000 gallon and 10,000 gallon USTs (see following section). The purpose of this well is to monitor groundwater quality downgradient of the former 8,000 and 10,000 gallon USTs.

Screening of the soil samples from MW-1 indicated VOC concentrations of 2.5 parts per million (ppm), 220 ppm, and 103 ppm at 5, 10, and 15 feet below grade, respectively. No detectable concentrations of VOCs were encountered at 10-12 feet below grade. All other wells and the soil boring contained no detectable concentrations of VOCs in soil samples screened with the PID. No split-spoon samples were collected from MW-4; although screened drill cuttings did not contain detectable concentrations of VOCs.

## **B. Test Pit Excavation**

A total of four test pits were excavated at the site to further define the extent and degree of subsurface petroleum contamination at the site. Three test pits were excavated in the vicinity of the former 8,000 gallon and 10,000 gallon USTs, to determine if a petroleum release had occurred as a result of these tanks, and one was excavated to the north of the former 1,000 gallon UST, to help define the extent of the contaminant plume originating from the 1,000 gallon UST pit. As each test pit was excavated, a soil sample was collected at every one-foot interval and classified and logged in detail. Each sample was screened in the field for VOCs with a PID. Test pit locations are indicated on the Site Map and soil types and screening results are indicated in well log format in the Appendix.

Test Pit #1 was excavated approximately in between where the 10,000 gallon and 8,000 gallon USTs had been located. This location was verified on-site by Mr. Duval. VOC concentrations in the soil were non-detect down to 7 feet below the ground surface. At seven feet, a VOC concentration of 0.2 ppm was detected, which increased with each downward soil sample up to 54 ppm at the water table which was 10'3" below grade. The VOC concentrations detected in the soils dropped to 2.5 ppm at 12 feet below grade.

The next test pit (Test Pit #2) was excavated approximately 30 feet to the west, in the assumed downgradient direction from the former USTs. This test pit was excavated to 10 feet below grade, the location of the water table. No evidence of petroleum contamination was

detected in any of the soil samples collected from this test pit. Therefore, a third test pit was excavated in a location that was likely near the south end of the 8,000 gallon UST. A VOC concentration of 23 ppm was detected in the soil sample collected from the water table (10'5" below grade), the extent of the excavation, in Test Pit #3. All other samples collected from this test pit contained no detectable concentrations of VOCs.

After drilling the wells and soil boring in the vicinity of the 1,000 gallon UST, Test Pit #4 was excavated to the north of the former location of the UST in order to ensure that the edges of the contaminant plume had been defined. This test pit was excavated to a maximum depth of 10'6", approximately 6 inches below the water table. No VOC concentrations were detected in any of the samples collected from this test pit.

### **C. Determination of Groundwater Flow Direction and Gradient**

Once the monitoring wells were installed, they were allowed to stabilize for a period of approximately one week. After this period, depth to water measurements were taken with the use of a Keck interface probe for all four site related wells. These measurements were subtracted from the top of casing elevations, which were determined relative to an arbitrary datum of 100 feet at top of the casing for MW-1, to determine the water table elevation at each of the wells. From the monitoring well water table elevation data, the groundwater contours were interpolated onto the site map and the groundwater direction and gradient determined.

As displayed on the groundwater contour map included in Appendix A, the regional groundwater flow direction for August 9, 1995 was generally to the west northwest at a gradient of 0.1%. This flow pattern is very likely given the local unconsolidated soil types and surface water drainage patterns to the White River.

### **D. Groundwater Sample Collection and Analysis**

Immediately following depth to water data collection on August 9, 1995, samples of the groundwater were collected from all four of the site related monitoring wells. No free phase petroleum product was observed in any of the monitoring wells. All samples were analyzed for benzene, toluene, ethyl benzene, and xylenes (BTEX), and methyl tertiary butyl ether (MTBE), common constituents of petroleum contamination, per EPA Method 602. Results of the laboratory analyses for those wells sampled on this date are summarized in Appendix D.

According to the results of the analyses, detectable concentrations of petroleum contamination have been detected in all of the groundwater monitoring wells at the site. The sample collected from MW-1 contained concentrations of petroleum contamination that are above Vermont Groundwater Enforcement Standards. Concentrations were detected below standards in all other wells. The low relative concentration of MTBE and benzene in the sample collected from MW-1 indicates that the contamination detected in the groundwater is from a relatively old release.

All samples were collected according to Griffin's groundwater sampling protocol which complies with industry and state standards. Results from the analyses of the duplicate, trip blank and equipment blank samples indicate that adequate quality assurance and control (QA/QC) were maintained during sample collection and analysis.

#### **E. Sensitive Receptor Risk Assessment**

A receptor risk assessment was conducted to identify known and potential receptors of the contamination detected at Conrad Duval, Inc. A visual survey was conducted at the time of monitoring well installation at the site, and a determination of the potential risk to identified receptors was conducted based on proximity, groundwater flow direction, and contaminant concentration levels. Interviews and historical research was also conducted as part of the survey.

##### *Water Supplies*

In preparation of the UST removal inspection report prepared by Griffin and dated March 7, 1995, a total of nine water supply wells were identified to be within one-half mile of the site. One of these wells is a public supply well owned by the Town of Rochester. These wells were identified based on information provided by the Basic Well Data sheets obtained from the Vermont Water Supply Division records. Buildings in the vicinity obtain water from the municipal water system, which obtains its supply from a drilled well located approximately 1,500 feet south of the site. The locations of the wells, as indicated on the Basic Well Data sheets, are upgradient of the site and located at such a distance from the site that the level of petroleum contamination detected in the subsurface at the site could not likely impact the supply wells. The Town of Rochester supply well is located 1,500 feet to the south of the site, approximately cross gradient of groundwater flow. The results of the latest water supply sample analysis for VOCs for the town well (WSID #5238) indicate that no compounds tested for in the analysis were present in the water sample above detection limits. A copy of the laboratory report can be found in Appendix F. Based on these results, the level and limited extent of petroleum contamination at the site, and the proximity of the supply wells to the site, it is not likely that any supply wells are at risk of impact from petroleum contamination detected in the subsurface at Conrad Duval, Inc.

##### *The White River*

The White River is located along the west edge of the site and flows to the south. The river is approximately 320 feet from the former 1,000 gallon UST and 120 feet from the former 8,000 and 10,000 gallon USTs. According to the groundwater elevation data collected from monitoring wells at the site, the groundwater flows towards the river, perpendicular to river flow. The banks of the White River were inspected closely for signs of petroleum contamination during the day of drilling at the site. No evidence of petroleum contamination was detected; i.e. no staining of the soil along the banks, no stressed vegetation, and no sheens in the river water were observed. No VOCs were detected in soils along the banks that were screened with a PID. It is evident that groundwater in the vicinity of the site flows into the White River, meaning that there is a risk of impact of petroleum contaminated groundwater to the river. However, based on

the sample analysis results from downgradient wells at the site, contamination to the groundwater is below Vermont Groundwater Enforcement Standards in MW-2, MW-3, and MW-4. Groundwater contamination at these low levels could not likely significantly impact the water quality of the White River.

#### *Buildings in the Vicinity*

Three buildings on-site have been identified to be potentially at risk of petroleum contamination impact based on the proximity of their location to petroleum contamination detected in the subsurface. These are the Duval residence, Conrad Duval, Inc. main building, and the old railroad roundhouse. All three of these buildings are constructed upon a slab foundation and no complaints of petroleum odors have been reported in any of the buildings at the site. Based on this information, and that the levels of adsorbed petroleum contamination detected near the ground surface is very low, it is not likely that any of these buildings are at risk of impact from petroleum vapors.

#### **IV. CONCLUSIONS**

Based on the data collected from Conrad Duval, Inc. and vicinity in Rochester, Vermont, the following conclusions are made:

- 1) Petroleum contamination exists in the soils (adsorbed) and in the groundwater (dissolved) in the vicinity of the former 1,000 gallon gasoline UST. The contaminant plume appears to be concentrated to the immediate vicinity of the former UST. All groundwater samples collected downgradient (to the west) of the former UST contained petroleum contaminants in concentrations less than Vermont Groundwater Enforcement Standards. It is likely that the petroleum contamination detected in the subsurface is from an old release, as the UST has been out of service for a minimum of two years, and based on the water quality results.
- 2) Evidence of petroleum contamination was also detected in the vicinity of and downgradient from a former 8,000 gallon gasoline and a 10,000 gallon diesel UST at the site. Based on groundwater quality testing conducted at the site, and groundwater flow direction, it is likely that petroleum contamination detected in the vicinity of the 1,000 gallon UST may be contributing to or wholly responsible for low levels of contamination detected in the vicinity of the old railroad roundhouse.
- 3) Up to nine water supply wells have been identified within a one-half mile radius of the site. None of these appear to be at risk of impact from petroleum contamination detected in the subsurface at Conrad Duval, Inc. This is based on the concentration of contamination detected at the site, proximity to the supply wells, and the local groundwater flow direction at the site.



- 4) Over time, the natural processes of dilution, dispersion, volatilization, and biodegradation will reduce contaminant concentrations present in the subsurface at Conrad Duval, Inc.

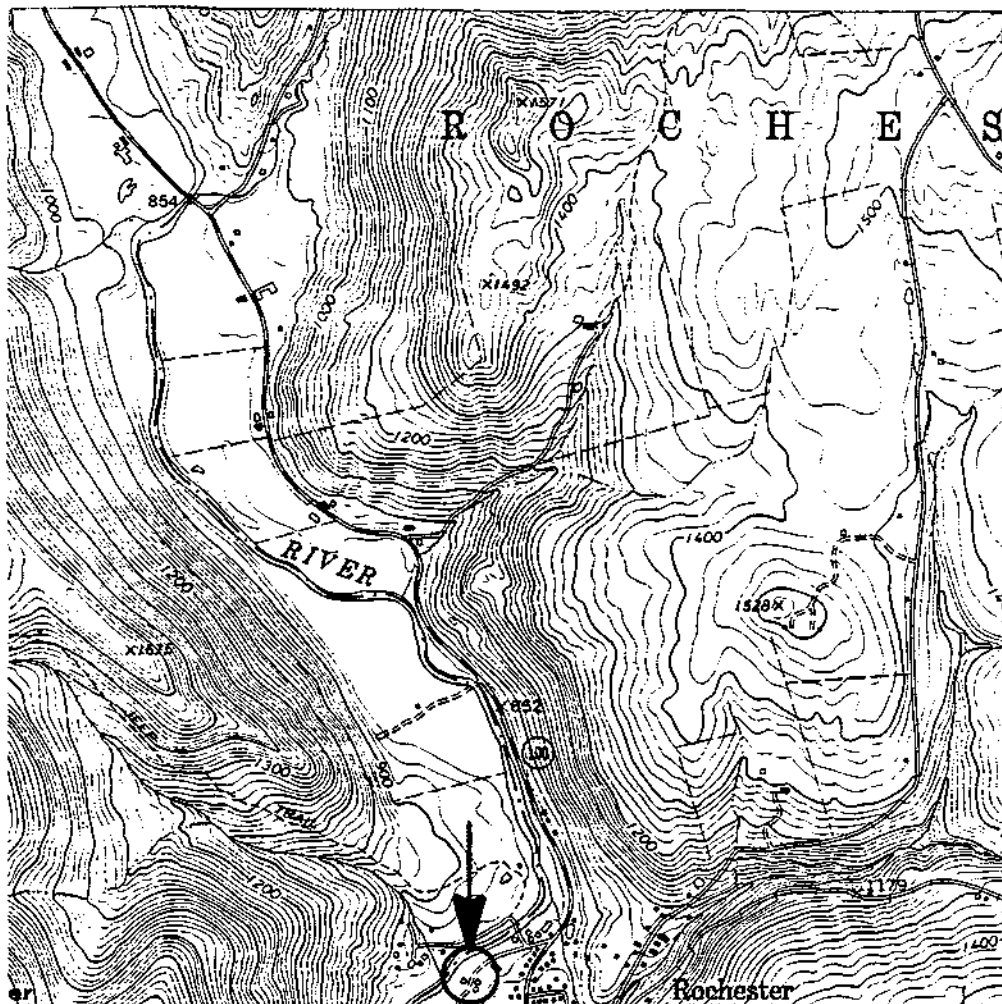
## **V. RECOMMENDATIONS**

Based on the above conclusions, the following recommendations are made concerning petroleum contamination detected in the subsurface at Conrad Duval, Inc. located in Rochester, Vermont:

- 1) As it is expected that the petroleum contamination in the subsurface originated from a relatively old release, it is likely that the contaminant plume will remain confined to the immediate vicinity of the former 1,000 gallon UST. In order to verify this assumption, the groundwater at the site should be monitored again in one year. A sample of the groundwater should be collected from all four site related groundwater monitoring wells and submitted for laboratory analysis. Each sample should be analyzed for BTEX and MTBE per EPA Method 602. After this time, if downgradient wells continue to contain petroleum contaminants in concentrations less than Vermont Groundwater Enforcement Standards, then the site should be recommended for Site Management Activity Completed status and the site should be removed from the Vermont Active Hazardous Waste Sites List.

## **APPENDIX A**

- 1) Site Location Map**
- 2) Site Map**
- 3) Groundwater Contour Map**



JOB #: 6954708

SOURCE: USGS- HANCOCK, VERMONT QUADRANGLE.



CONRAD DUVAL EXCAVATING, INC.

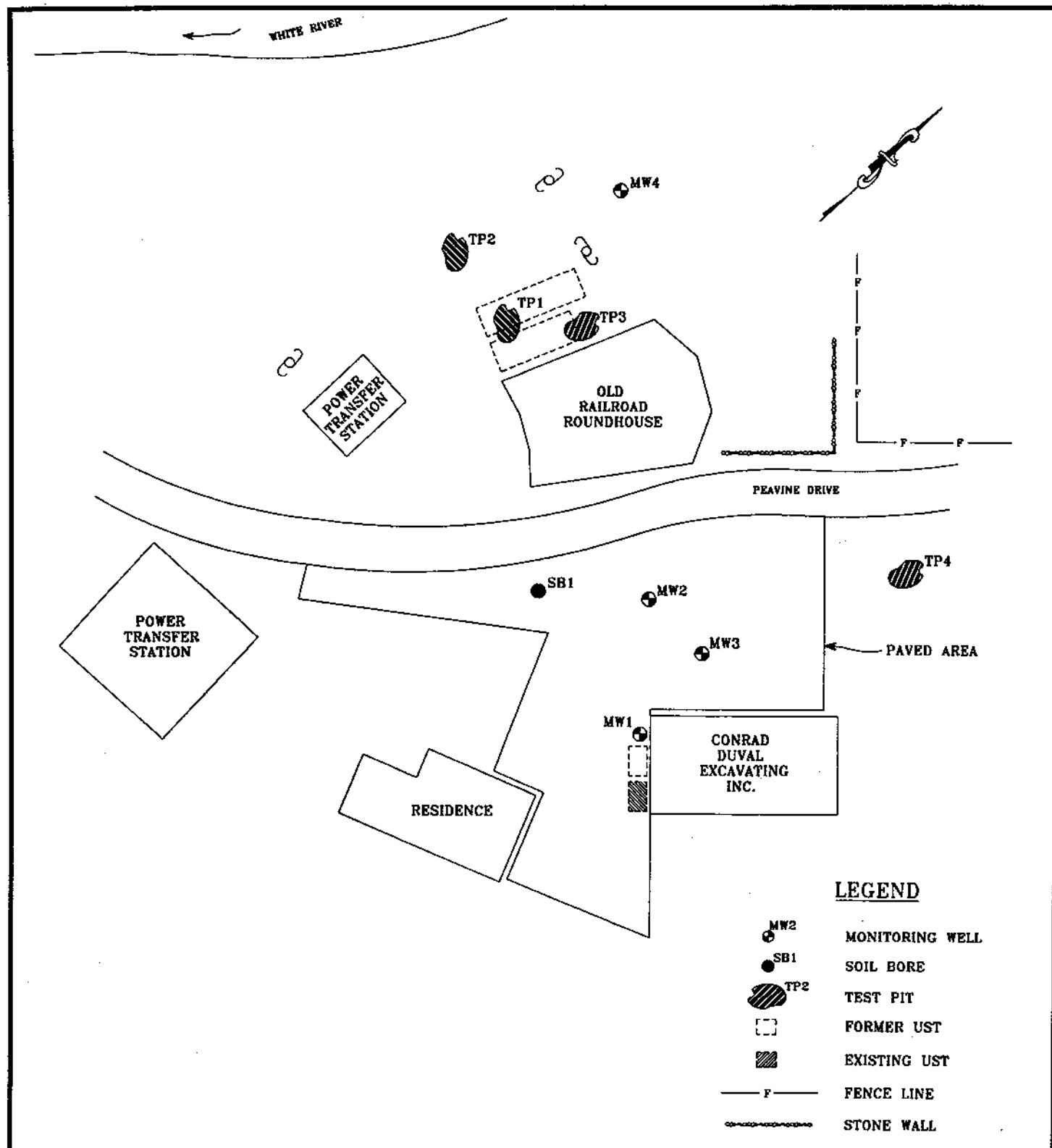
ROCHESTER, VERMONT

SITE LOCATION MAP

DATE: 8/3/95

DWG. #: 1

SCALE: 1:24000 DRN.: SB APP.: ES



JOB #: 6954706



**CONRAD DUVAL EXCAVATING, INC.**

**ROCHESTER, VERMONT**

**SITE MAP**

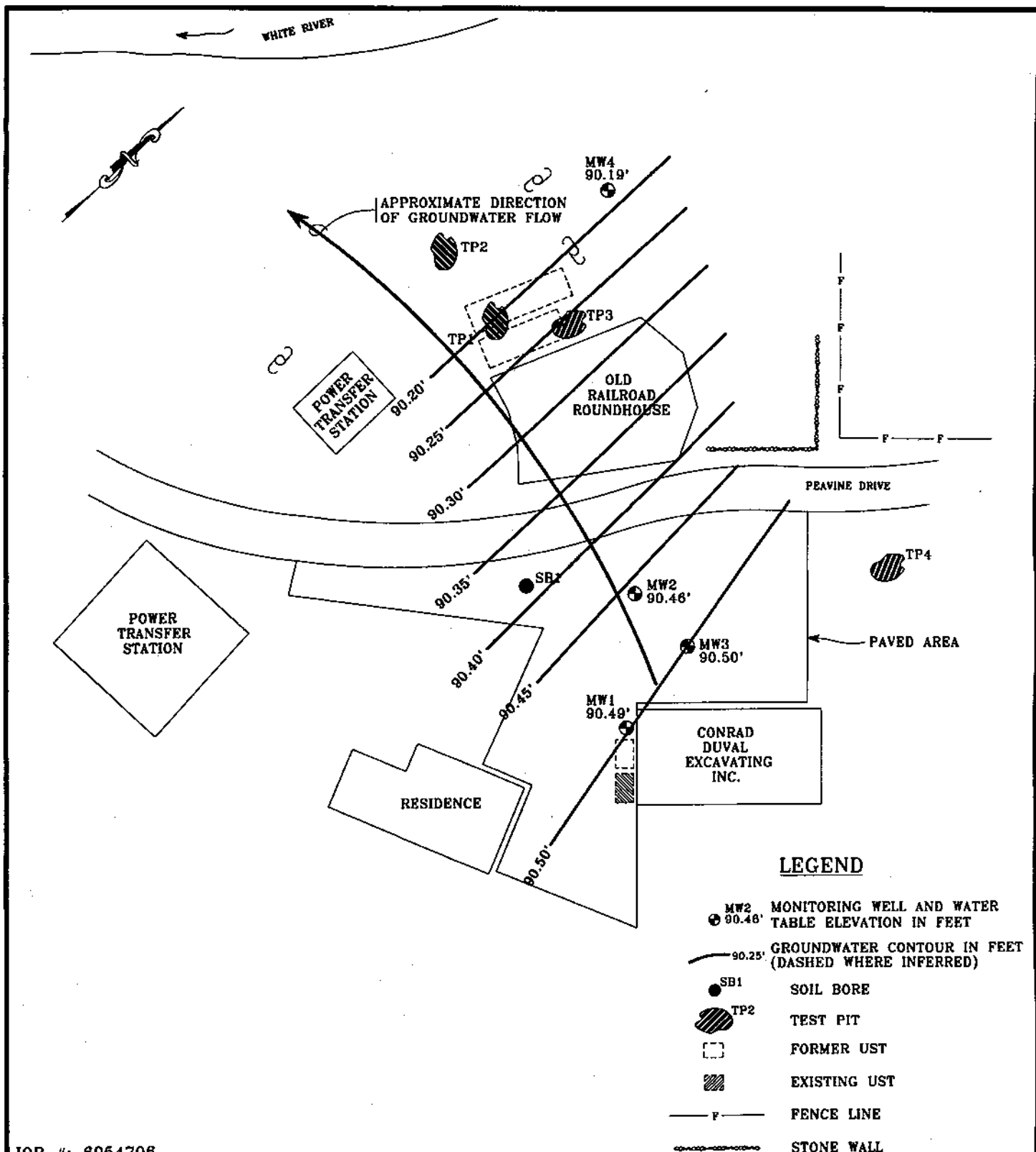
DATE: 9/8/95

DWG. #: 2

SCALE: 1"=60'

DRN.:SB

APP.:ES



JOB #: 6954706  
MEASUREMENT DATE: 8/9/95



CONRAD DUVAL EXCAVATING, INC.

ROCHESTER, VERMONT

GROUNDWATER CONTOUR MAP

DATE: 9/8/95

DWG.#: 3

SCALE: 1"=60'

DRN.:SB

APP.:ES

**APPENDIX B**

**MONITORING WELL / SOIL BORING LOGS**

PROJECT CONRAD DUVAL EXCAVATING INC.

LOCATION ROCHESTER, VERMONT

DATE DRILLED 8/2/95 TOTAL DEPTH OF HOLE 17'

DIAMETER 4.25"

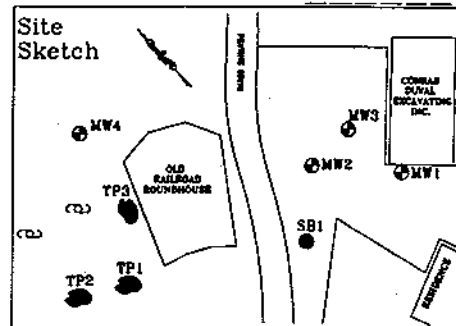
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 6.5' TYPE sch 40 pvc

DRILLING CO. GMB DRILLING METHOD HSA

DRILLER RON GARNEAU LOG BY E. SANDBLOM

WELL NUMBER MW1



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX			0
1		LOCKING WELL CAP			1
2		CONCRETE			2
3		NATIVE BACKFILL		Brown, medium to fine SAND with some silt, dry.	3
4		WELL RISER			4
5					5
6		BENTONITE	5'-7'- 3/3/4/4 2.5 ppm	Brown, medium to fine SAND with some silt, dry, slight petroleum odor.	6
7					7
8					8
9		SAND PACK		9.5' WATER TABLE	9
10					10
11		WELL SCREEN	10'-12'- 7/11/16/17 220 ppm		11
12				Black/orange, white/brown, medium to coarse SAND and GRAVEL, some rounded and angular glacial till, petroleum odor.	12
13					13
14					14
15					15
16		BOTTOM CAP	15'-17'- 9/16/22/16 103 ppm	Brown, medium to fine saturated SAND, over red/brown/black/white coarse saturated SAND, over medium saturated SAND, SILT and GRAVEL.	16
17		UNDISTURBED NATIVE SOIL		BASE OF WELL AT 17' END OF EXPLORATION AT 17'	17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT CONRAD DUVAL EXCAVATING INC.

LOCATION ROCHESTER, VERMONT

DATE DRILLED 8/2/95 TOTAL DEPTH OF HOLE 17'

DIAMETER 4.25"

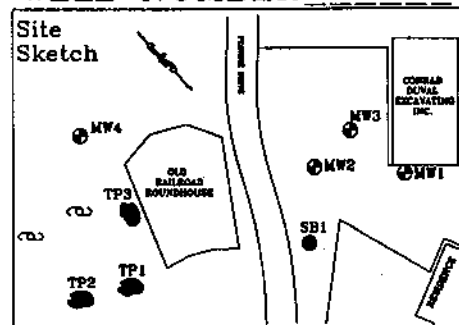
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 6.5' TYPE sch 40 pvc

DRILLING CO. GMB DRILLING METHOD HSA

DRILLER RON GARNEAU LOG BY E. SANDBLOM

WELL NUMBER MW2



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX			0
1		LOCKING WELL CAP			1
2		CONCRETE			2
3		NATIVE BACKFILL		Brown, medium SAND with some gravel, dry.	3
4		WELL RISER			4
5					5
6		BENTONITE	5'-7'- 6/5/7/7 0.0 ppm	Brown, medium to fine SAND and SILT, dry.	6
7					7
8					8
9		SAND PACK		9.0' WATER TABLE	9
10					10
11		WELL SCREEN	10'-12'- 15/15/12/6 0.0 ppm	Medium to fine SAND, GRAVEL and SILT, over medium to coarse SAND and GRAVEL, saturated.	11
12					12
13					13
14					14
15					15
16		BOTTOM CAP	15'-17'- 1/2/3/3 0.0 ppm	Very fine SAND and SILT with some clay, saturated.	16
17		UNDISTURBED NATIVE SOIL		BASE OF WELL AT 17' END OF EXPLORATION AT 17'	17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25



PROJECT CONRAD DUVAL EXCAVATING INC.

LOCATION ROCHESTER, VERMONT

DATE DRILLED 8/2/95 TOTAL DEPTH OF HOLE 15'

DIAMETER 4.25"

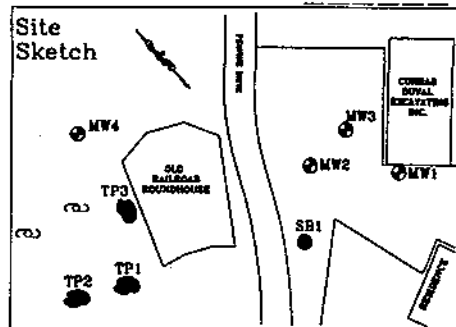
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 4.5' TYPE sch 40 pvc

DRILLING CO. GMB DRILLING METHOD HSA

DRILLER RON GARNEAU LOG BY E. SANDBLOM

WELL NUMBER MW3



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX			0
1		LOCKING WELL CAP			1
2		CONCRETE			2
3		NATIVE BACKFILL			3
4		WELL RISER	0'-5'	Brown, fine to medium SAND with some silt, trace gravel, dry.	4
5		BENTONITE	0.0 ppm		5
6					6
7			5'-10'	Brown, fine to medium SAND with some silt, over a more coarse SAND and GRAVEL, dry.	7
8		SAND PACK	0.0 ppm		8
9					9
10		WELL SCREEN		10.0' WATER TABLE	10
11			10'-12'- 8/6/4/2	Coarse SAND and GRAVEL, saturated.	11
12			0.0 ppm		12
13				Smooth fine SAND and SILT with some clay.	13
14		BOTTOM CAP			14
15		UNDISTURBED NATIVE SOIL		BASE OF WELL AT 15'	15
16				END OF EXPLORATION AT 15'	16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT CONRAD DUVAL EXCAVATING INC.

LOCATION ROCHESTER, VERMONT

DATE DRILLED 8/2/95 TOTAL DEPTH OF HOLE 15'

DIAMETER 4.25"

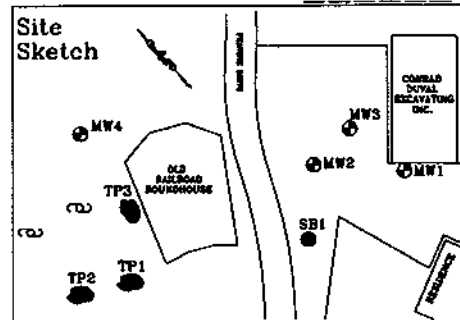
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 4.5' TYPE sch 40 pvc

DRILLING CO. GMB DRILLING METHOD HSA

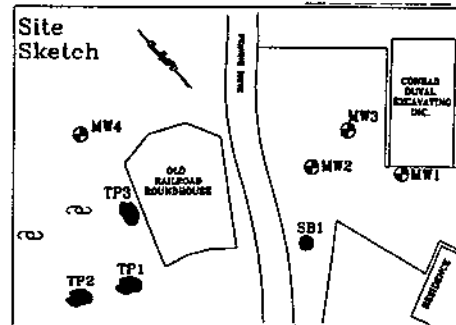
DRILLER RON GARNEAU LOG BY E. SANDBLOM

WELL NUMBER MW4



GRIFFIN INTERNATIONAL, INC

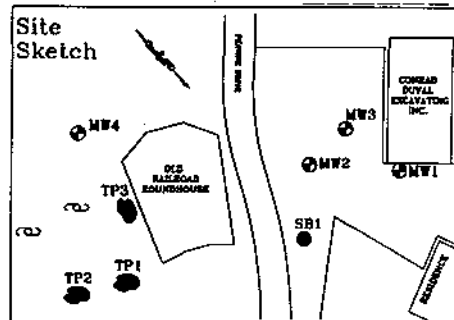
DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX			0
1		LOCKING WELL CAP			1
2		CONCRETE			2
3		NATIVE BACKFILL		Dark brown, medium to fine SAND, with coarse gravel at the 4'-5' depth.	3
4		WELL RISER			4
5		BENTONITE			5
6					6
7		SAND PACK		Brown, fine to medium SAND and SILT with gravel, layer of cobbles at the 6'-8' depth.	7
8				8.75" WATER TABLE	8
9					9
10		WELL SCREEN			10
11					11
12				Sand and GRAVEL to 12' depth, then very fine SAND and SILT.	12
13					13
14		BOTTOM CAP			14
15		UNDISTURBED NATIVE SOIL		BASE OF WELL AT 15' END OF EXPLORATION AT 15'	15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT CONRAD DUVAL EXCAVATING INC.LOCATION ROCHESTER, VERMONTDATE DRILLED 8/2/95 TOTAL DEPTH OF HOLE 14'DIAMETER 4.25"SCREEN DIA. NA LENGTH NA SLOT SIZE NACASING DIA. NA LENGTH NA TYPE NADRILLING CO. GMB DRILLING METHOD HSADRILLER RON GARNEAU LOG BY E. SANDBLOMWELL NUMBER SB1

GRIFFIN INTERNATIONAL, INC

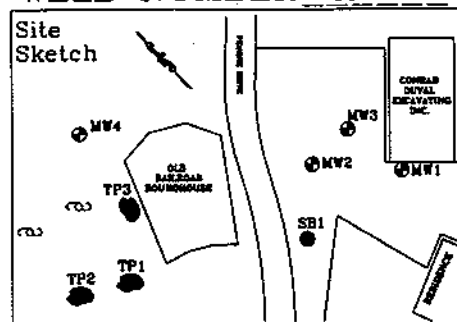
DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0					0
1					1
2			0'-5'	Coarse GRAVEL over smooth, well graded SAND.	2
3			0.0 ppm		3
4					4
5					5
6			5'-7'- 3/4/5/11	Brown, fine SAND with trace of silt, with a 3" layer of lighter colored medium to coarse SAND at 6.5'.	6
7		NATIVE BACKFILL	0.0 ppm		7
8					8
9					9
10				10.0' WATER TABLE	10
11			10'-12'- 100	Black/orange, white/brown, medium to coarse SAND and GRAVEL, some rounded	11
12			0.0 ppm		12
13					13
14				BASE OF WELL AT 14'	14
15		BEDROCK		END OF EXPLORATION AT 14'	15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

**APPENDIX C**  
**TEST PIT LOGS**

PROJECT CONRAD DUVAL EXCAVATING INC.LOCATION ROCHESTER, VERMONTDATE DRILLED 8/2/95 TOTAL DEPTH OF HOLE 12.5'DIAMETER 4.25"SCREEN DIA. NA LENGTH NA SLOT SIZE NACASING DIA. NA LENGTH NA TYPE NADRILLING CO. GMB DRILLING METHOD HSADRILLER RON GARNEAU LOG BY E. SANDBLOMWELL NUMBER TP1

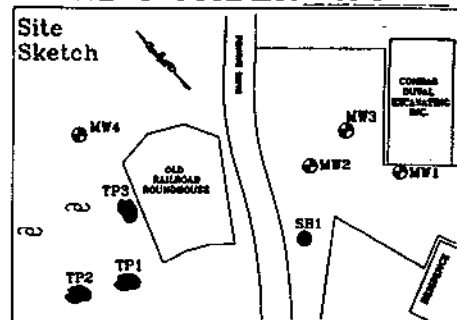
GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0					0
1					1
2					2
3			0'-6' 0.0 ppm		3
4				Dark brown, dry, medium to fine grained SAND with some silt and medium to coarse rounded GRAVEL, no petroleum odor.	4
5					5
6					6
7		NATIVE BACKFILL	7.0' - 0.2 ppm	Dark brown, moist, medium to fine SAND with some silt and gravel. Small pocket of gray/black soil at approx. 9.5', strong petroleum odor.	7
8			8.0' - 4.9 ppm		8
9					9
10				10'-3" WATER TABLE	10
11			10'-3" - 54 ppm	Brown, wet, medium to fine SAND and GRAVEL, slight petroleum odor.	11
12			12.0' - 2.5 ppm	Saturated medium SAND and some fine gravel.	12
13		UNDISTURBED NATIVE SOIL		END OF EXPLORATION AT 12.5'	13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT CONRAD DUVAL EXCAVATING INC.LOCATION ROCHESTER, VERMONTDATE DRILLED 8/2/95 TOTAL DEPTH OF HOLE 10.0'DIAMETER 4.25"SCREEN DIA. NA LENGTH NA SLOT SIZE NACASING DIA. NA LENGTH NA TYPE NADRILLING CO. GMB DRILLING METHOD HSADRILLER RON GARNEAU LOG BY E. SANDBLOMWELL NUMBER TP2

GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0					0
1			0'-2' 0.0 ppm	Brown, dry, medium SAND with trace of gravel.	1
2					2
3			3' - 0.0 ppm	Brown, dry, medium SAND with some silt and some coarse gravel.	3
4			4' - 0.0 ppm	Brown, dry, medium SAND and some SILT and trace clay.	4
5					5
6			6' - 0.0 ppm	Brown, dry, medium SAND with some silt and gravel.	6
7			7' - 0.0 ppm	Moist, medium to coarse SAND and rounded GRAVEL, glacial outwash.	7
8			8' - 0.0 ppm	Brown/black/red/white, moist medium to coarse SAND and coarse rounded GRAVEL, larger stones.	8
9			9' - 0.0 ppm	Multi colored, wet, coarse SAND and GRAVEL, glacial outwash.	9
10			10' - 0.0 ppm	Saturated coarse SAND and GRAVEL.	10
11				10.0' WATER TABLE	11
12				END OF EXPLORATION AT 10.0'	12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

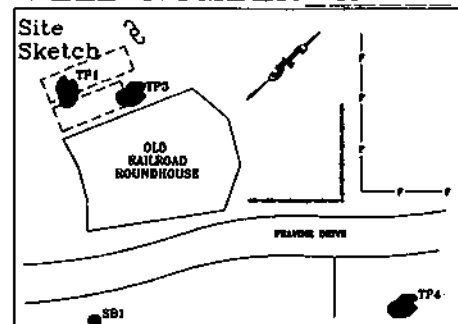
PROJECT CONRAD DUVAL EXCAVATING INC.LOCATION ROCHESTER, VERMONTDATE DRILLED 8/2/95 TOTAL DEPTH OF HOLE 10'-5"DIAMETER 4.25"SCREEN DIA. NA LENGTH NA SLOT SIZE NACASING DIA. NA LENGTH NA TYPE NADRILLING CO. GMB DRILLING METHOD HSADRILLER RON GARNEAU LOG BY E. SANDBLOMWELL NUMBER TP3

GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		NATIVE BACKFILL	0'-1'	Fine SAND and SILT with some clay and trace gravel.	0
1			0.0 ppm		1
2			1'-2'	Brown, dry, medium to fine SAND and some gravel.	2
3			0.0 ppm	Medium to fine SAND with some coarse sand and silt.	3
4			2'-3'		4
5			0.0 ppm	Medium to coarse SAND and GRAVEL.	5
6			4' - 0.0 ppm		6
7			6' - 0.0 ppm	Multi-colored, damp, SAND and rounded GRAVEL.	7
8			7' - 0.0 ppm	Multi-colored, damp, SAND and rounded GRAVEL.	8
9			8' - 0.0 ppm	Multi-colored and rust, damp, coarse SAND and GRAVEL, mottling observed.	9
10			9' - 0.0 ppm	Dark brown coarse SAND and GRAVEL.	10
11		UNDISTURBED NATIVE SOIL	10'-5" - 23 ppm	Saturated coarse SAND and GRAVEL.	11
12				10'-5" WATER TABLE	12
13				END OF EXPLORATION AT 10'-5"	13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT CONRAD DUVAL EXCAVATING INC.  
 LOCATION ROCHESTER, VERMONT  
 DATE DRILLED 8/2/95 TOTAL DEPTH OF HOLE 10'-6"  
 DIAMETER 4.25"  
 SCREEN DIA. NA LENGTH NA SLOT SIZE NA  
 CASING DIA. NA LENGTH NA TYPE NA  
 DRILLING CO. GMB DRILLING METHOD HSA  
 DRILLER RON GARNEAU LOG BY E. SANDBLOM

WELL NUMBER TP4



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0					0
1					1
2					2
3					3
4				Medium to fine SAND with some gravel and silt.	4
5					5
6					6
7					7
8				Dry, coarse SAND and GRAVEL.	8
9			9' - 0.0 ppm	Wet, coarse SAND and GRAVEL.	9
10			10' - 0.0 ppm	Saturated, very coarse SAND and well graded GRAVEL	10
11				10'-6" WATER TABLE	11
12				END OF EXPLORATION AT 10'-6"	12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25



**APPENDIX D**

**GROUNDWATER QUALITY DATA SUMMARY**

9/8/95

**Groundwater Quality Summary**  
**Conrad Duval Excavation**  
**Rochester, Vermont**  
**Monitoring Well 1 (MW-1)**

PARAMETER	Date of Sample Collection						
	8/9/95						
Benzene	ND						
Chlorobenzene	ND						
1,2-DCB	ND						
1,3-DCB	ND						
1,4-DCB	ND						
Ethylbenzene	108.						
Toluene	1,580.						
Xylenes	25,700.						
Total BTEX	27,388.						
MTBE	ND < 1,000						
BTEX + MTBE	27,388.						

**Monitoring Well 2 (MW-2)**

PARAMETER	Date of Sample Collection						
	8/9/95						
Benzene	ND						
Chlorobenzene	ND						
1,2-DCB	ND						
1,3-DCB	ND						
1,4-DCB	ND						
Ethylbenzene	ND						
Toluene	ND						
Xylenes	6.3						
Total BTEX	6.3						
MTBE	TBQ						
BTEX + MTBE	6.3						

**Monitoring Well 3 (MW-3)**

PARAMETER	Date of Sample Collection						
	8/9/95						
Benzene	ND						
Chlorobenzene	ND						
1,2-DCB	ND						
1,3-DCB	ND						
1,4-DCB	ND						
Ethylbenzene	ND						
Toluene	ND						
Xylenes	3.4						
Total BTEX	3.4						
MTBE	ND < 10						
BTEX + MTBE	3.4						

All values reported in ug/L (ppb)  
 ND - None Detected

TBQ - Trace below quantitation limit

9/8/95

**Groundwater Quality Summary**  
**Conrad Duval Excavation**  
**Rochester, Vermont**  
**Monitoring Well 4 (MW-4)**

PARAMETER	Date of Sample Collection						
	8/9/95						
Benzene	1.8						
Chlorobenzene	ND						
1,2-DCB	ND						
1,3-DCB	ND						
1,4-DCB	ND						
Ethylbenzene	ND						
Toluene	2.3						
Xylenes	2.4						
Total BTEX	6.5						
MTBE	ND < 10						
BTEX + MTBE	6.5						

All values reported in ug/L (ppb)  
 ND - None Detected

TBQ - Trace below quatitation limit

9/8/95

# **Groundwater Quality Summary Conrad Duval Excavation Rochester, Vermont**

## **Vermont Drinking Water Standards and Quality Assurance and Control Samples**

9-Aug-95

PARAMETER	Equip. Blank	Trip Blank	Duplicate (MW-2)	Vermont Drinking Water Standards
Benzene	ND	ND	ND	5.0*
Chlorobenzene	ND	ND	ND	100*
1,2-DCB	ND	ND	ND	600*
1,3-DCB	ND	ND	ND	600**
1,4-DCB	ND	ND	ND	75*
Ethylbenzene	ND	ND	ND	700*
Toluene	ND	ND	ND	1,000*
Xylenes	ND	ND	5.3.	10,000*
Total BTEX	ND	ND	5.3.	-
MTBE	ND	ND	TBQ	40**
BTEX+MTBE	ND	ND	5.3.	-

\* - EPA Established Maximum  
Contaminant Level

\*\* - Vermont Health Advisory Level

All values reported in ug/L (ppb)  
ND - None Detected

TBQ - Trace below quantitation limit

**APPENDIX E**

**GROUNDWATER LEVEL DATA**

9/8/95

**Current Groundwater Level Data  
Conrad Duval Excavating  
Rochester, Vermont**

**Monitoring Date: 8/9/95**

Well I.D.	Well Depth	Top of Casing Elevation	Depth to Product	Depth to Water	Product Thickness	Specific Gravity of Product	Hydro Equivalent	Corrected Depth to Water	Corrected Water Table Elevation
MW-1	17.0	100.00	-	9.51				9.51	90.49
MW-2	17.0	99.44	-	8.98				8.98	90.46
MW-3	15.0	99.74	-	9.24				9.24	90.50
MW-4	15.0	98.94	-	8.75				8.75	90.19

All values reported in feet

APPENDIX F

ROCHESTER WATER SUPPLY VOC ANALYSIS REPORT  
(4/95)

Be

CLIENT: Rochester Water Department  
ADDRESS: School Street  
Rochester, VT 05767

LABORATORY NO: 5-0883  
PROJECT NO: 70330

ATTENTION: Terry Schaefer  
SITE: Not Provided  
MATRIX: Drinking Water  
WSID #: 5328

DATE OF SAMPLE: 04/13/95  
DATE OF RECEIPT: 04/13/95  
DATE OF ANALYSIS: 04/17/95  
DATE OF REPORT: 06/15/95

## Drinking Water Results

All results are reported in micrograms per liter (ug/L).

PARAMETER	Status	Results	PARAMETER	Status	Results
EPA Method: 524.2			EPA Method: 524.2		
Dichlorodifluoromethane		< 0.5	Dibromochloromethane	U	< 0.5
Chloromethane	U	< 0.5	Chlorobenzene	R	< 0.5
Vinyl Chloride	R	< 0.5	1,1,1,2-Tetrachloroethane	U	< 0.5
Bromomethane		< 0.5	Ethylbenzene	R	< 0.5
Chloroethane	U	< 0.5	m & p-Xylene	R	< 0.5
Trichlorofluoromethane		< 0.5	o-Xylene	R	< 0.5
1,1-Dichloroethylene	R	< 0.5	Styrene	R	< 0.5
Methylene Chloride	R	< 0.5	Bromoform	U	< 0.5
t-1,2-Dichloroethylene	R	< 0.5	Isopropylbenzene		< 0.5
1,1-Dichloroethane	U	< 0.5	Bromobenzene	U	< 0.5
c-1,2,-Dichloroethylene	R	< 0.5	1,2,3-Trichloropropane	U	< 0.5
2, 2-Dichloropropane	U	< 0.5	1,1,2,2-Tetrachloroethane	U	< 0.5
Bromochloromethane		< 0.5	n-Propylbenzene		< 0.5
Chloroform	U	< 0.5	2-Chlorotoluene		< 0.5
1,1,1-Trichloroethane	R	< 0.5	4-Chlorotoluene		< 0.5
Carbon Tetrachloride	R	< 0.5	1,3,5-Trimethylbenzene		< 0.5
1,1-Dichloropropene	U	< 0.5	tert-Butylbenzene		< 0.5
Benzene	R	< 0.5	1,2,4-Trimethylbenzene		< 0.5
1,2-Dichloroethane	R	< 0.5	sec-Butylbenzene		< 0.5
Trichloroethylene	R	< 0.5	1,3-Dichlorobenzene	U	< 0.5
1,2-Dichloropropane	R	< 0.5	1,4-Dichlorobenzene	R	< 0.5
Dibromomethane		< 0.5	p-Isopropyltoluene		< 0.5
Bromodichloromethane	U	< 0.5	1,2-Dichlorobenzene	R	< 0.5
cis-1,3-Dichloropropene	U	< 0.5	n-Butylbenzene		< 0.5
Toluene	R	< 0.5	1,2,4-Trichlorobenzene	R	< 0.5
trans-1,3-Dichloropropene	U	< 0.5	Hexachlorobutadiene		< 0.5
1,1,2-Trichloroethane	R	< 0.5	Naphthalene		< 0.5
Tetrachloroethylene	R	< 0.5	1,2,3-Trichlorobenzene		< 0.5
1,3-Dichloropropane	U	< 0.5			

**Status: R= Regulated U= Unregulated**

Note: Sample preserved for 524.2.

Trihalomethanes preservative not used, as per 524.2 Method.

Units: 1ug/L = 1 part per billion (ppb)

1ppb = 0.001 part per million (ppm)

$C_4H_6$   
 $4 \times \text{cellulose} \text{ Lactone}$



# LABORATORY REPORT

CLIENT: Rochester Water Department  
 ADDRESS: School Street  
 Rochester, VT 05767  
 WSID # 5328

ATTENTION Terry Schaefer  
 MATRIX: Drinking Water

LABORATORY NO: 4-2574  
 PROJECT NO: 70330  
 DATE OF SAMPLE: 10/3/94  
 DATE OF RECEIPT: 10/4/94  
 DATE OF ANALYSIS: 10/4/94  
 DATE OF REPORT: 10/14/94

## All results in micrograms per liter (ppb)

PARAMETER	STATUS	VALUE	PARAMETER	STATUS	VALUE
		Well #2			Well #2
Dichlorodifluoromethane		< 0.5	1,2-Dibromomethane (EDB)	*	< 0.5
Chloromethane	U	< 0.5	Chlorobenzene	R	< 0.5
Vinyl Chloride	R	< 0.5	1,1,1,2-Tetrachloroethane	U	< 0.5
Bromomethane		< 0.5	Ethylbenzene	R	< 0.5
Chloroethane	U	< 0.5	m & p-Xylene	R	< 0.5
Trichlorofluoromethane		< 0.5	o-Xylene	R	< 0.5
1,1-Dichloroethylene	R	< 0.5	Styrene	R	< 0.5
Methylene Chloride	R	< 0.5	Bromoform	U	< 0.5
1,1,2-Dichloroethylene	R	< 0.5	Isopropylbenzene		< 0.5
1,1-Dichloroethane	U	< 0.5	Bromobenzene	U	< 0.5
c-1,2-Dichloroethylene	R	< 0.5	1,2,3-Trichloropropane	U	< 0.5
2, 2-Dichloropropane	U	< 0.5	1,1,2,2-Tetrachloroethane	U	< 0.5
Bromochloromethane		< 0.5	n-Propylbenzene		< 0.5
Chloroform	U	< 0.5	2-Chlorotoluene		< 0.5
1,1,1-Trichloroethane	R	< 0.5	4-Chlorotoluene		< 0.5
Carbon Tetrachloride	R	< 0.5	1,3,5-Trimethylbenzene		< 0.5
1,1-Dichloropropene	U	< 0.5	tert-Butylbenzene		< 0.5
Benzene	R	< 0.5	1,2,4-Trimethylbenzene		< 0.5
1,2-Dichloroethane	R	< 0.5	sec-Butylbenzene		< 0.5
Trichloroethylene	R	< 0.5	1,3-Dichlorobenzene	U	< 0.5
1,2-Dichloropropane	R	< 0.5	1,4-Dichlorobenzene	R	< 0.5
Dibromomethane		< 0.5	p-Isopropyltoluene		< 0.5
Bromodichloromethane	U	< 0.5	1,2-Dichlorobenzene	R	< 0.5
cis-1,3-Dichloropropene	U	< 0.5	n-Butylbenzene		< 0.5
Toluene	R	< 0.5	1,2-Dibr-3-clpropane (DBCP)		< 0.5
trans-1,3-Dichloropropene	U	< 0.5	1,2,4-Trichlorobenzene	R	< 0.5
1,1,2-Trichloroethane	R	< 0.5	Hexachlorobutadiene		< 0.5
Tetrachloroethylene	R	< 0.5	Naphthalene		< 0.5
1,3-Dichloropropane	U	< 0.5	1,2,3-Trichlorobenzene		< 0.5
Dibromochloromethane	U	< 0.5			

EPA Method 524.2

SCAN STATUS: R = REGULATED VOC, U = UNREGULATED VOC, \* = Vermont testing exemption.

APPENDIX G

LABORATORY ANALYSIS REPORTS



**ENDYNE, INC.**

*Sub*

**Laboratory Services**

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

**REPORT OF LABORATORY ANALYSIS**

CLIENT: Griffin International  
PROJECT NAME: Conrad Duval Excavation  
REPORT DATE: August 21, 1995  
DATE SAMPLED: August 9, 1995

PROJECT CODE: GICD1779  
REF.#: 78,112 - 78,118

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Chain of custody indicated samples were preserved with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times. All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method. Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.  
Laboratory Director

enclosures

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**ENDYNE, INC.**

**Laboratory Services**

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Conrad Duval Excavation  
REPORT DATE: August 21, 1995  
DATE SAMPLED: August 9, 1995  
DATE RECEIVED: August 10, 1995  
DATE ANALYZED: August 18, 1995

PROJECT CODE: GICD1779  
REF.#: 78,113  
STATION: MW 1  
TIME SAMPLED: 1:03  
SAMPLER: R. Higgins

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	100	ND <sup>2</sup>
Chlorobenzene	100	ND
1,2-Dichlorobenzene	100	ND
1,3-Dichlorobenzene	100	ND
1,4-Dichlorobenzene	100	ND
Ethylbenzene	100	108.
Toluene	100	1,580.
Xylenes	100	25,700.
MTBE	1,000	ND

Bromobenzene Surrogate Recovery: 101%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

**NOTES:**

1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.

2 None detected

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**ENDYNE, INC.**

**Laboratory Services**

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Conrad Duval Excavation  
REPORT DATE: August 21, 1995  
DATE SAMPLED: August 9, 1995  
DATE RECEIVED: August 10, 1995  
DATE ANALYZED: August 18, 1995

PROJECT CODE: GICD1779  
REF.#: 78,114  
STATION: MW 2  
TIME SAMPLED: 12:46  
SAMPLER: R. Higgins

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	6.3
MTBE	10	TBQ <sup>2</sup>

Bromobenzene Surrogate Recovery: 106%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

**NOTES:**

- 1 None detected
- 2 Trace below quantitation limit

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**ENDYNE, INC.**

**Laboratory Services**

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Conrad Duval Excavation  
REPORT DATE: August 21, 1995  
DATE SAMPLED: August 9, 1995  
DATE RECEIVED: August 10, 1995  
DATE ANALYZED: August 18, 1995

PROJECT CODE: GICD1779  
REF.#: 78,115  
STATION: MW 3  
TIME SAMPLED: 1:21  
SAMPLER: R. Higgins

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	3.4
MTBE	10	ND

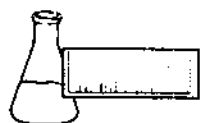
Bromobenzene Surrogate Recovery: 107%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

**NOTES:**

1 None detected

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**ENDYNE, INC.**

**Laboratory Services**

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Conrad Duval Excavation  
REPORT DATE: August 21, 1995  
DATE SAMPLED: August 9, 1995  
DATE RECEIVED: August 10, 1995  
DATE ANALYZED: August 18, 1995

PROJECT CODE: GICD1779  
REF.#: 78,116  
STATION: MW 4  
TIME SAMPLED: 1:31  
SAMPLER: R. Higgins

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	1.8
Chlorobenzene	1	ND <sup>1</sup>
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	2.3
Xylenes	1	2.4
MTBE	10	ND

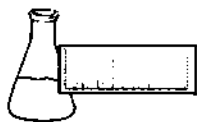
Bromobenzene Surrogate Recovery: 107%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

**NOTES:**

1 None detected

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**ENDYNE, INC.**

**Laboratory Services**

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Conrad Duval Excavation  
REPORT DATE: August 21, 1995  
DATE SAMPLED: August 9, 1995  
DATE RECEIVED: August 10, 1995  
DATE ANALYZED: August 20, 1995

PROJECT CODE: GICD1779  
REF.#: 78,112  
STATION: Trip Blank  
TIME SAMPLED: 10:20  
SAMPLER: R. Higgins

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 106%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

**NOTES:**

1 None detected

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**ENDYNE, INC.**

**Laboratory Services**

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Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Conrad Duval Excavation  
REPORT DATE: August 21, 1995  
DATE SAMPLED: August 9, 1995  
DATE RECEIVED: August 10, 1995  
DATE ANALYZED: August 20, 1995

PROJECT CODE: GICD1779  
REF.#: 78,117  
STATION: Duplicate MW 2  
TIME SAMPLED: 12:46  
SAMPLER: R. Higgins

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	5.3
MTBE	10	TBQ <sup>2</sup>

Bromobenzene Surrogate Recovery: 106%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

**NOTES:**

1 None detected

2 Trace below quantitation limit

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(802) 879-4333  
FAX 879-7103

**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Conrad Duval Excavation  
REPORT DATE: August 21, 1995  
DATE SAMPLED: August 9, 1995  
DATE RECEIVED: August 10, 1995  
DATE ANALYZED: August 20, 1995

PROJECT CODE: GICD1779  
REF.#: 78,118  
STATION: Equip Blank  
TIME SAMPLED: 1:40  
SAMPLER: R. Higgins

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 106%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

**NOTES:**

1 None detected

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# CHAIN-OF-CUSTODY RECORD

15091

Project Name: CONRAD DUAL EXCAVATION  
Site Location: Rochester, VT  
Endyne Project Number: GIC01779

Reporting Address: CLIFFIN INTERNATIONAL  
Company: SAVE E. SANDERSON  
Contact Name/Phone #: (802) 365-4792

Billing Address:  
Sampler Name: R. Hiji  
Phone #: (802) 365-4792

Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
78,112	TRIP BANK	H <sub>2</sub> O	✓		8/10/95 10:20	2	400mL		CO2	HCl	
78,113	MW1				1:03						
78,114	MW2				12:46						
78,115	MW3				1:21						
78,116	MW4				1:31						
78,117	Duplicate MW 2				12:46						
78,118	EQUIP BANK				1:40						

Relinquished by: Signature Robert Hiji  
Received by: Signature Beth Ward  
Date/Time 8/10/95 10:15

Relinquished by: Signature Beth Ward  
Received by: Signature Ken Bean  
Date/Time 8/10/95 11:30 A.M.

New York State Project: Yes ☐ No ☒

## Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										

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